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Adaptation – Developing A Geospatial Technique For Quantifying Wind Hazards Using A Case Study In Bogor City, West Java - Indonesia

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Increasing windstorm occurrences significantly affect human lives, especially communities living in densely populated areas. However, windstorms commonly occur in a short period, with unexpected timing and at random places. Therefore, wind hazard maps must be developed to build resilience actions within communities. Bogor City area is used as a sample study and this research utilised GIS in developing wind hazard map. Further, this research develops a new methodology using parameters (slope-angle, land-cover/land-use, rainfall-intensity, and maximum wind-speed) to produce wind hazard map accurately that could be used to develop preventative action.

As a result, it is evident that potential wind hazards are a high hazard category during the rainy season with around 73% of previous accidents happened at this category. It can be concluded that the generated maps can thus be used to describe the wind hazard of Bogor City region.

According to the sample study, it should be noted that a developed map could describe the effectiveness of the methodology related to input parameters, pre-and -processing data, and producing a map. In general, the application of four critical parameters demonstrates that a developed methodology can be a new paradigm in GIS modelling for wind hazard mapping.

Keywords: Wind, Hazard, Mapping.

Promotional text

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